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Daily Vitamin Can Thwart AIDS Progress

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A simple daily vitamin pill can delay the progress of AIDS in H.I.V.-infected women, an eight-year study by Harvard researchers has found.

Vitamins are by no means a cure or a substitute for antiretroviral therapy, the researchers said. But for malnourished women in Africa or Asia with little hope of getting better drugs, vitamins are a cheap, safe way of giving them extra months of life and a little less misery before they die, the study, which is being published today in The New England Journal of Medicine, suggested.

"The study is important for developing countries, especially for pregnant and postpartum women, who are a nutritionally vulnerable group," said Dr. Lynne Mofenson, chief of the pediatric and maternal AIDS branch of the National Institute of Child Health and Human Development, one of the National Institutes of Health.

Dr. Richard G. Marlink, who helps run treatment programs in six African countries as director of the Harvard AIDS Institute and scientific adviser to the Elizabeth Glaser Pediatric AIDS Foundation, said the study would prompt him to recommend vitamins for his patients.

"This is exciting because it costs literally pennies and can ward off the time when you need to begin treatment with expensive and toxic drugs," he said.

The study, run by the Harvard School of Public Health and the medical school of Muhimbili University in Tanzania, followed 1,078 women in Dar es Salaam between 1995 and 2003. The women were recruited when they were pregnant. They had no access to anti-AIDS cocktails, so H.I.V. infection meant a sentence of eventual death from tuberculosis, meningitis, pneumonia, Kaposi's sarcoma or other opportunistic infections.

About six million people in poor countries are already sick enough to need antiretroviral drugs, the World Health Organization estimates, and another 25 million or more will need them soon. Only about 400,000 are getting them.

Efforts to increase that number have gone slowly because of high drug prices, fights over patents, a lack of money from donors, reluctance by African leaders to admit that their nations have epidemics and the inability of shattered health care systems to muster enough doctors, nurses and laboratories to safely deliver the drugs.

Vitamins costing less than \$15 a year might prolong the lives of people waiting for rescue, the study concluded. The supplements do not attack the virus, but enhance the body's own immune system, allowing it to do so.

The vitamins were specially made for the study "but are quite easy to mass-produce," said its lead author, Wafaie W. Fawzi, a professor of nutrition and epidemiology at Harvard. They contained about three times the recommended daily allowance of vitamin E and 6 to 10 times the allowance of C and B-complex vitamins.

The supplements are not the first stopgap therapy proposed for the poor. In 2000, the World Health Organization advised that AIDS patients who were not on antiretrovirals get regular doses of cotrimoxazole, an antibiotic better known as Bactrim. That drug, which cost only about \$8 a year in generic form, warded off secondary infections, which are often fatal. Largely because of the cost and the disorganization of African health care systems, that recommendation has not been widely adopted.

The Tanzania study found that 30 percent fewer of the women who received the multivitamins died or progressed to full AIDS during the study than a group of women receiving a placebo. The counts of CD-4 cells, the immune system cells that the virus attacks, stayed somewhat higher in the group that took multivitamins. That group also had fewer incidents of thrush, throat ulcers, inflamed gums, nausea, rashes, fatigue and other debilitating side effects.

Nonetheless, vitamins were no cure. About a quarter of the women who received them still died or reached full AIDS during the study, and without antiretroviral treatment, virtually all can be expected to die in the next few years.

The study had to be changed twice in midstream for ethical reasons, Dr. Fawzi said.

Vitamin A was dropped from the supplements because researchers found evidence that it increased the risk that mothers would pass the infection to their babies.

Also, when the authors had early evidence that multivitamins prevented fetal death and premature births, they put all the women in the study on multivitamins until they delivered. After that, the mothers went back on their previous regimens, without doctors or patients knowing whether they were on a placebo.

The study confirms what researchers have suspected since the epidemic's early days, Dr. Marlink said.

Many AIDS researchers noticed that vitamin-deficient patients sickened faster than well-fed ones, he said, but Americans who were malnourished usually had other problems, like drug and alcohol abuse, that made it hard to blame poor nutrition for their rapid declines.

Three years ago, Dr. Andrew Tomkins of the Institute for Child Health in London gave multivitamins or placebos to 481 H.I.V.-infected men and women in Thailand. Although

Dr. Tomkins followed the patients for less than a year, the group taking vitamins had "significantly" lower mortality, especially among those whose immune systems were weakest, he said.

Dr. Tomkins called Dr. Fawzi's study "particularly important" because many people are not yet in treatment despite the efforts of the Global Fund for AIDS, Tuberculosis and Malaria and "it's going to be a long time before everybody is," he said.

The women studied were poor but urban. Their diet was "not very rich, but not suboptimal," he said, adding that rural women probably ate less well. But those who benefited from vitamins did so "regardless of whether they were undernourished or not," Dr. Fawzi said.

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